

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the subject application. The Non-Final Office Action of April 7, 2003 has been received and contents carefully reviewed.

In the Non-Final Office Action, the Examiner alleged an incorporation of essential material in the specification by reference to a foreign application was improper; and rejected claims 1-19 under 35 U.S.C. § 103(a) as being unpatentable over Ohi (U.S. Pat. No. 5,604,511). The objection to the incorporation by reference and rejection of these claims is traversed and reconsideration of the claims is respectfully requested in view of the following remarks.

The Examiner objected to an alleged “incorporation of essential material in the specification by reference to a foreign application...” as being improper. The Examiner then stated “Applicant is required to amend the disclosure to include the material incorporated by reference.”

According to M.P.E.P. § 608.01(p)(I)(B), the distinction between incorporation by reference of essential versus non-essential material is inconsequential in an application relying on an earlier application solely for the benefit of its filing date.

Applicant respectfully submits the earlier application incorporated by reference (i.e., Korean Patent Application No. P2002-51886) is relied upon solely for the benefit of its filing date (i.e., September 2, 2000). Accordingly, Applicant respectfully requests the withdrawal of the objection to the incorporation by reference.

The rejection of claims 1-19 under 35 U.S.C. § 103(a) as being unpatentable over Ohi is traversed and reconsideration is respectfully requested.

Independent claim 1 is allowable over the cited references in that claim 1 recites a combination of elements including, for example, “a timing controller having an input terminal for receiving the control signals transmitted from the host system and having an output terminal; a frequency detector connected to any one of the input terminal or the output terminal of the timing controller to detect the transmitted signals; compensation voltage setting means for compensating the driving voltage in response to the control signals detected by the frequency detector...; and a digital to digital converter for generating a compensation voltage set by the compensation voltage setting means...” None of the cited references including Ohi, singly or in combination, teaches or suggest at least these features of the claimed invention. Accordingly, Applicant respectfully submits that independent claim 1 and claims 2 and 3, which depend therefrom are allowable over the cited references.

Independent claim 4 is allowable over the cited references in that claim 4 recites a combination of elements including, for example, “detecting the control signals from any one of an input terminal and an output terminal of a timing controller...; setting a compensation voltage for compensating the driving voltage in response to the detected control signals...” None of the cited references including Ohi, singly or in combination, teaches or suggest at least these features of the claimed invention. Accordingly, Applicant respectfully submits that independent claim 4 and claims 5 and 6, which depend therefrom are allowable over the cited references.

Independent claim 7 is allowable over the cited references in that claim 7 recites a combination of elements including, for example, “a timing controller receiving external control signals...; a frequency detector detecting a frequency of at least one of the external control signals; a voltage compensator receiving the detected frequency and generating

therefrom a compensation voltage control signal; and a voltage converter receiving the compensation voltage control signal and a reference voltage for driving the scanning lines of the LCD panel and in response thereto generating a compensated voltage for driving the scanning lines...” None of the cited references including Ohi, singly or in combination, teaches or suggest at least these features of the claimed invention. Accordingly, Applicant respectfully submits that independent claim 7 and claims 8-12, which depend therefrom are allowable over the cited references.

Independent claim 13 is allowable over the cited references in that claim 13 recites a combination of elements including, for example, “receiving external control signals for controlling a timing of scanning signals; detecting a frequency of at least one of the external control signals; generating a compensation voltage control signal according to the detected frequency; and employing the compensation voltage control signal to generate a compensated driving voltage for driving the scanning lines...” None of the cited references including Ohi, singly or in combination, teaches or suggest at least these features of the claimed invention. Accordingly, Applicant respectfully submits that independent claim 13 and claims 14-19, which depend therefrom are allowable over the cited references.

To establish a *prima facie* case of obviousness of a claimed invention, (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference; and (2) at least all the claim limitations must be taught or suggested by the prior art. M.P.E.P. § 2143.01 and 2143.03. For the reasons set forth below, Applicant respectfully submits a *prima facie* case of obviousness has not been established with regard to the presently claimed invention.

In rejecting claims 1 and 7, the Examiner cites Ohi as teaching "...a timing controller..., video signals N1..., [and] a compensation voltage for compensating the brightness of the voltage in response to a control signal..." but as failing to teach "...[a] digital to digital converter for generating a compensation voltage and deliver it to the [LCD] panel..." The Examiner then concluded it would have been obvious "...to utilize a digital to digital converter as claimed because it would improve the reliability of the compensation signal going into the display panel."

Firstly, Applicant respectfully submits, however, Ohi fails to teach or suggest at least the aforementioned combination of elements. For example, and to reiterate, claim 1 requires, among other elements "a timing controller having an input terminal for receiving the control signals transmitted from the host system and having an output terminal; a frequency detector connected to any one of the input terminal or the output terminal of the timing controller to detect the transmitted signals; compensation voltage setting means for compensating the driving voltage in response to the control signals detected by the frequency detector; and a digital to digital converter for generating a compensation voltage set by the compensation voltage setting means..." and claim 7 requires, among other elements, "a timing controller receiving external control signals...; a frequency detector detecting a frequency of at least one of the external control signals; a voltage compensator receiving the detected frequency and generating therefrom a compensation voltage control signal; and a voltage converter receiving the compensation voltage control signal and a reference voltage for driving the scanning lines of the LCD panel and in response thereto generating a compensated voltage for driving the scanning lines..."

Secondly, Applicant respectfully submits there is no motivation, either in Ohi itself or in the knowledge generally available to one of ordinary skill in the art, to modify Ohi. According to M.P.E.P. § 2144.02, the rationale to support a rejection under 35 U.S.C. § 103 may rely solely on logic and sound scientific principle. However, when an Examiner relies on a scientific theory, evidentiary support for the existence and meaning of that theory must be provided. It appears, from the Examiner's theory, that incorporating the "digital to digital converter as claimed" would "improve the reliability of the compensation signal going into the display panel" and thus render the claimed invention obvious. Applicant respectfully submits, however, evidentiary support for the existence and meaning of the theory outlined above must be, but has not been, provided. In the absence of such support, the Applicant respectfully submits Ohi has merely been modified using the presently claimed invention as a template via improper hindsight reasoning. Moreover, Applicant respectfully submits there is no teaching or suggestion either in the references or within the knowledge generally available to one of ordinary skill in the art to modify Ohi and arrive at the claimed invention.

In rejecting claim 4, the Examiner states "this is a method corresponding to the apparatus of claim 1 and is therefore rejected on the same basis set forth in claim 1."

Applicant respectfully submits, however, Ohi fails to teach or suggest at least the aforementioned combination of elements. To reiterate, claim 4 requires, among other elements "detecting the control signals from any one of an input terminal and an output terminal of a timing controller...; setting a compensation voltage for compensating the driving voltage in response to the detected control signals..." Similar arguments made above with respect to the rejection of claim 1 are applicable to the rejection claim 4.

In rejecting claims 11 and 12, the Examiner admits Ohi does not teach “a frequency detector that detects the frequency of the external control signals of the timing controller and a frequency of the control signals by detecting a ...frequency of an output signal of the timing controller...” The Examiner concludes, however, that it would have been obvious to “...utilize a frequency controller as claimed because it would be easier for compensation voltage to adjust the liquid crystal knowing the frequency of the control signals ahead of time.”

In view of the arguments presented above with respect to claims 1 and 7, it appears, from the Examiner’s theory, that incorporating the “frequency controller as claimed” would “[make it] easier for compensation voltage to adjust the liquid crystal knowing the frequency of the control signals ahead of time” and thus render the claimed invention obvious. Applicant respectfully submits, however, evidentiary support for the existence and meaning of the theory outlined above must be, but has not been, provided. In the absence of such support, the Applicant respectfully submits Ohi has merely been modified using the presently claimed invention as a template via improper hindsight reasoning. Moreover, Applicant respectfully submits there is no teaching or suggestion either in the references or within the knowledge generally available to one of ordinary skill in the art to modify Ohi and arrive at the claimed invention.

In rejecting claim 13, the Examiner states “this is a method corresponding to the apparatus of claim 1 and is therefore rejected on the same basis set forth in claim 7.”

Applicant respectfully submits, however, Ohi fails to teach or suggest at least the aforementioned combination of elements. To reiterate, claim 13 requires, among other elements, “receiving external control signals for controlling a timing of scanning signals; detecting a frequency of at least one of the external control signals; generating a

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compensation voltage control signal according to the detected frequency..." Similar arguments made above with respect to the rejection of claim 7 are applicable to the rejection claim 13.

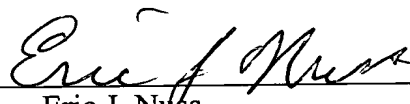
Applicant believes the application in condition for allowance and early, favorable action is respectfully solicited. Should the Examiner deem that a telephone conference would further the prosecution of this application, the Examiner is invited to call the undersigned attorney at (202) 496-7500.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136. Please credit any overpayment to deposit Account No. 50-0911.

Respectfully submitted,

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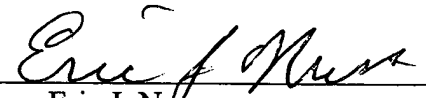
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